

	L #	Hits	Search T xt	DBs	Time Stamp
34	L23	302	(polymer\$4 near2 (foam\$6 or bubbles or spray\$6)) and ((expose\$4 or top or surface) near4 (interconnect\$6 or interconnect\$6))	US-PGPUB; USPAT; EPO; JPO; DERWEN T; IBM_TDB	2005/01/27 15:37
35	L28	390	(438/762).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TDB	2005/01/27 15:12
36	L37	325	(((((second! adj (substrate or wafer)) same (first adj (substrate or wafer))) same interconnect\$6) and ((@ad<"20030620") or (@rlad<"20030620")) and polymer\$6	US-PGPUB; USPAT; EPO; JPO; DERWEN T; IBM_TDB	2005/01/27 15:12
37	L21	551	((expose\$4 or top or surface) near4 (interconnect\$6 or interconnect\$6)) same (reaction or react\$6 or polymerization) same (substrate or wafer)	US-PGPUB; USPAT; EPO; JPO; DERWEN T; IBM_TDB	2005/01/27 15:12

	L #	Hits	Search Text	DBs	Tim Stamp
38	L38	295	23 and ((@ad<"20030620") or (@rlad<"20030620"))	US- PGPUB; USPAT; EPO; JPO; DERWEN T; IBM_TD B	2005/01/27 15:38

DOCUMENT-IDENTIFIER: US 20030215689 A1

TITLE: Solid oxide fuel cell with a metal foam seal

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Application Filing Date - APD (1):
20020516

Detail Description Paragraph - DETX (4):

[0022] One configuration of a SOFC includes a stack of planar SOFCs. An electrochemical cell stack 10 is illustrated in FIG. 1. A fuel electrode or anode 30 and an oxygen electrode or cathode 50, are disposed on opposite sides of a solid electrolyte 40. An end cap 20 includes a surface 22 that is configured for disposal adjacent to the anode 30 for both electrical contact and also to provide fuel distribution. An interconnect 24 includes a first interconnect surface 26, and a second interconnect surface 28. First interconnect surface 26 is configured for disposal adjacent to cathode 50, to provide oxidant distribution and electrical contact. Second interconnect surface 28, is configured for disposal adjacent to an anode 32 of another SOFC. Anode 32 is disposed adjacent to interconnect 22 to illustrate the placement of and ability to stack several electrochemical cells in electrical connected to electrochemical cell 10. End cap 20 functions essentially the same way as does interconnect 24. For reasons of simplicity, end cap 20 and interconnect 24 are referred to hereinafter generically as flow plate 25, unless otherwise noted.

Detail Description Paragraph - DETX (35):

[0052] Solidification in an open-celled mold is a method of making metal foam that uses a reticulated open-cell "polymer" foam as template. From this template, an investment-casting mold is created into which a suitable metal or alloy is cast. The process involves coating polymer foam with a mold

casting

(e.g., ceramic powder) slurry, which is then dried and embedded in casting

sand. The mold is then baked to both harden the casting material, and

decompose (and/or evaporate) the polymer foam template. The result is a

negative image of the foam, which is then used as a mold. This mold is

subsequently filled with a metal or metal alloy. After the metal or metal

alloy is allowed to cool, the mold materials are removed, leaving behind the

metal equivalent of the original polymer foam.

Detail Description Paragraph - DETX (36):

[0053] Polymeric foam is also used as a template in forming a metal foam by

the metal deposition on "cellular pre-forms" method. In this method, polymer

foams are used as templates (i.e., pre-forms) upon which metal is deposited by

chemical vapor deposition, electro-deposition, or the like. Once the pre-form

is coated with a metal or metal alloy, it is then heated, preferably in an

oxygen containing environment, to remove the polymer foam core. The result is

a cellular metal structure in the shape of the foam pre-core having hollow

ligaments. Subsequent sintering of the cellular metal structure is used to

densify these ligaments into a metal foam suitable for use herein.